

AN ANALYSIS OF TWO HUNDRED AND TWENTY-
ONE CASES OF FOREIGN BODY INTRODUCED
INTO THE MALE BLADDER PER URE-
THRAM, WITH REPORT OF A
RECENT CASE.

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ON August 16, 1896, a gentleman came to my office with the following history: He was an electrical engineer, twenty-seven years old, married, and the father of one child. He had always enjoyed good health and been strong and vigorous. Fourteen years before coming to me, when he was about thirteen years of age, he had in a spirit of mischief inserted a watch-chain bar, made of vulcanized India-rubber, into his urethra. It had slipped from his fingers and been lost in the canal. He stated that after it disappeared he felt much alarm for a time, but as it gave him no pain he soon forgot about it. However, at intervals, ever since its introduction he has experienced sharp pain at the meatus, and also had considerable pain in the hypogastrium. Had especially severe attacks of pain several times immediately after micturition. None of these attacks were sufficiently severe to make him deem it worth while to consult a physician. About two months previous to coming to my office he had begun to ride a great deal on a bicycle, and ever since doing so he has suffered much from the symptoms of vesical irritation. Several times while urinating the flow had suddenly been checked, and he had had much pain in the region of the bladder, accompanied by an almost constant desire to urinate.

He attributed all these symptoms to excessive bicycle-riding, as he said he thought he must have passed the foreign body at some time with his urine without its passage attracting his notice.

I introduced a metallic sound, and after a few moments it came

in contact with an object in the bladder, which, however, dodged away the instant the sound touched it.

The next day he returned, bringing with him a specimen of his urine, which was normal in every respect except that it contained considerable epithelial *débris*, apparently derived from the bladder.

On August 22, 1896, he was etherized at his home by Dr. Walter Roberts, and, assisted by Drs. J. M. Spellissy and J. H. Gibbon, I proceeded to perform median cystotomy upon him. Before operating I inserted a sound, and by its contact with the foreign body elicited a click distinctly audible to those in the room.

After opening the bladder the object of my search was located lying close to the middle lobe of the prostate. It was so rotten that in the process of extraction it broke into two fragments. The wound pursued a healthy course to recovery. On the twelfth day after the operation he went in bathing in the ocean at Atlantic City. He has been entirely well ever since.

The accompanying cut, kindly drawn for me by Dr. Spellissy, shows very accurately the condition of the foreign body immediately after removal. It was very slightly incrustated with phosphates.



Showing bar removed from the bladder.

In connection with this case I have collected and analyzed 221 other instances in which a foreign body has been introduced into the male bladder *per urethram*. I have avoided as far as possible in my study including any of the cases which have been heretofore brought together in any of the exhaustive statistical articles on this subject, contenting myself with bringing together the stray cases to be found in isolated reports.

As we should expect to find, foreign bodies are much rarer in the male bladder than they are in the female. The difference in length and calibre between the male and female urethra probably furnishes a sufficient explanation of this point.

As to why a foreign body introduced into the male urethra should be propelled onward and enter the bladder instead of being expelled through the meatus, it is now generally conceded to be because of the suction power possessed in most instances

by the urethra, which tends by a sort of vermicular motion to draw the object into the bladder when once it has entered its grasp.

This point was long in dispute. Christopher Heath, in 1876, made the statement that he had "noticed in perfectly healthy urethræ that there is a constant vermicular contraction of the wall of the canal, passing towards the bladder, and this accounts for the well-known fact that foreign bodies in the urethra tend to pass in that direction. This is wanting in any case where induration exists." In relation to the latter part of Mr. Heath's statement it is to be noted that most of the instances of foreign body in the bladder occur in those who are the victims of stricture or of some other pathological condition of the genito-urinary tract. This may be largely explained by the fact that usually in such cases the foreign body is a catheter or bougie which is broken in the grasp of the stricture, generally while being withdrawn, leaving the part on the bladder side of the stricture behind.

Sir Henry Thompson took exception to the views of Mr. Heath, and held that the motion of the urethral canal was in the opposite direction.

Agnew ("Principles and Practice of Surgery," Vol. II, p. 457, 1891) says that he had had "ocular demonstration of this urethral and vesical deglutition." He relates an instance in which "finding the resistance to the extraction of a catheter very marked, I proceeded, in order to satisfy myself of the reality of the so-called suction-power of the bladder and urethra, to dally with the instrument for a time. Accordingly, after pulling it a little way through the orifice of the urethra, I would relax my hold, when it would be immediately drawn in, and sometimes with singular rapidity."

The nature of the foreign bodies which have been found in the bladder is so very various that it is difficult to attempt any classification of them. I have, however, divided them into two great classes, the first including the cases in which the foreign body was a surgical instrument or a fragment of a surgical instrument. The second class takes in all the cases in which the

foreign body was not of the nature of those embraced by the first class.

Taking up first the consideration of the cases in which the foreign body was a surgical instrument or a piece of a surgical instrument we find they number in all 108 cases; made up as follows:

Whole flexible catheters	12 cases.
Fragments of flexible catheters	30 "
Whole gutta-percha bougies	9 "
Fragments of gutta-percha bougies	22 "
" " silver catheters	7 "
" " Nélaton catheters	2 "
" " English catheters	4 "
" " Mercier catheters	5 "
" " vulcanized India-rubber catheters	4 "
" " filiform bougies	2 "
" " slippery-elm bougies	2 "
Fragment of catgut bougie	1 case.
Ivory catheter tip	1 "
Fragment of guide for internal urethrotomy	1 "
" " Squire's vertebrated catheter	1 "
Whole pilot bougie	1 "
Two whole filiform bougies	1 "
Fragment of metallic sound	1 "
Whole English catheter	1 "
Medicated gelatin bougie	1 "

Among the above cases we find the following, which possess especial interest:

F. S. Edwards (*British Medical Journal*, 1882, I, p. 816) extracted with a lithotrite a pilot bougie twelve inches in length, which had been lost in the bladder of the patient two days previously by another surgeon.

William Fergusson (*Lancet*, 1863, II, p. 215) extracted with a lithotrite a gutta-percha bougie twelve inches in length, which had been introduced into the bladder by the patient, a boy of nineteen, two months previously. It was somewhat incrustated.

Ebermann (*St. Petersburger medicinische Zeitschrift*, 1871, II,

p. 295) reports a most remarkable case in which he extracted from a man's bladder two whole filiform bougies which had been left in by a doctor three months before.

F. L. Parker (*Transactions of the South Carolina Medical Association*, 1883, p. 93) performed median cystotomy on a young man and removed two gum elastic bougies which the patient had mischievously introduced into his bladder three or four months previously. There was a good deal of uric acid deposit upon them. The patient made a good recovery.

C. W. Oviatt (*North American Practitioner*, Chicago, 1892, iv, p. 35) found as the nucleus of a stone which he had removed by lateral cystotomy a medicated gelatin bougie, which had been introduced by the patient some twenty months prior to the operation. The bougies made of slippery-elm, of which we notice two instances of fragments having been left in the bladder, were strongly advocated by Dr. Rezin Thompson.

Bougies made of catgut were quite largely used in the first half of the century. There is only one instance among the cases I have collected in which a Squire vertebrated catheter was broken during its use, and as the dangers of this jointed form of instrument have been so much expatiated upon, I think this is rather noteworthy.

W. A. Byrd (*Medical and Surgical Reporter*, Philadelphia, 1884, L, p. 104) reports this case. He says the instrument broke during auto-catheterization, and he removed the fragment by Bigelow's operation.

At one time there was a great outcry against the gutta-percha bougie, which was in very general use, and we find many instances of their breaking recorded and the dangerous results therefrom.

The methods in which these various instruments were introduced are instructive.

In seventeen of the cases the instrument was in the hands of a physician. In eighty-one instances the patient was using it on himself. Twice a layman was endeavoring to catheterize the patient. In seven cases the method of introduction was not stated. There is no doubt that probably many times a physician

has had an instrument break while using it, leaving a fragment in the urethra or bladder, which he may have proceeded to extract immediately, or else may, through ignorance or fear, have allowed it to remain in the viscus. In the cases I have gathered there are eleven instances in which a doctor allowed an instrument, or the fragment of one, to remain in either the urethra or bladder. Almost every one will recall the classical case mentioned in Cooper's "Surgical Dictionary," in which a surgeon was catheterizing a woman for retention of urine; "during the operation he was observed to exhibit signs of confusion, and to quit his patient in considerable embarrassment. The same day he abruptly left his home and never was seen afterwards. The lady passed some years of dreadful suffering, attributed to aggravation of her original complaint. At length an abscess appeared in the sacral region, and on puncturing the instrument came in contact with a hard substance, which, when extracted, proved to be a blackened female catheter. The lady's sufferings ceased."

However, as a matter of course, patients are much more careless in their use of instruments, and are apt to use cheap, brittle catheters or bougies, and not to notice any defect which may exist in them, or to continue their use after they are old and rotten and therefore easily fractured.

Turning now to review the foreign bodies, other than surgical instruments, which have been found in the male bladder, we cannot but be amazed at their remarkable variety. As can be seen by the appended list, they are of all conceivable forms and shapes. They also vary greatly as to size, some of them being so large as to justly excite our wonder that their entrance into the bladder could possibly have been effected.

In the cases I have collected we find the following :

Lead-pencils or fragments of lead-pencils	11 cases.
A pencil with a bone tip	1 case.
Wooden pencil with metal cap	1 "
Wooden pencil with rubber in metal cap	1 "
Brass lead-pencil guard	1 "
A metallic pencil-case	1 "
A pen-holder	1 "

A piece of a bone pen-holder	1 case.
A piece of a wooden pen-holder	1 "
Pieces of rubber tubing	6 cases.
" " straw	5 "
" " wood	5 "
" " slate-pencils	4 "
" " wire	4 "
" " steel	3 "
" " stems of plants	4 "
" " glass tubes	3 "
" " glass rods	2 "
" " sealing-wax	5 "
" " candle-wax	2 "
" " wax	2 "
" " paraffin	3 "
" " feathers	2 "
Kidney beans	3 "
Pipe-stems	3 "
Clay pipe-stems	2 "
Glass pipe-stem	1 case.
Cane pipe-stem	1 "
Cigarette-holder	1 "
Pieces of chewing-gum	2 cases.
" " bone crotchet-needles	2 "
Toothpick	1 case.
Button-hook	1 "
Pine-leaf	1 "
Head of wheat	1 "
A piece of cane	1 "
Two porcelain shirt-buttons	1 "
A piece of grass	1 "
" " rolled-up paper	1 "
A cylinder of pork	1 "
" " potato	1 "
A paint-brush	1 "
Leather shoestrings	2 cases.
A galvanized metal watch-chain	1 case.
A pin	1 "
A shawl-pin	1 "
A hair-pin	1 "

A sewing-needle	I case.
A bone enema-tube with quill attached to it	I “
A piece of chalk with a string to it	I “
A piece of cord	I “
A cork	I “
A metal-cap four centimetres long	I “
An ear-spoon	I “
A threepenny piece	I “
An India-rubber umbrella ring	I “
A cordwainer's awl	I “
Also my own case of a vulcanized rubber watch-chain bar.	

The various ways in which the introduction of these objects was accounted for are of much interest. In thirty-four cases the patient acknowledged that his object had been to produce sexual excitement. In thirteen cases the relief of urethral irritation was assigned as the cause. In nine cases the object was to relieve retention of urine. In two cases, on the other hand, the agent was introduced to check incontinence of urine. In four cases the patient was endeavoring to push back gravel which had entered the urethra from the bladder. The maliciousness or mischievousness of friends was responsible in seven cases. In one instance the patient introduced the object hoping thereby to check nocturnal emissions. In another he was endeavoring to give himself an injection for gonorrhœa. In thirty-nine cases no reason could be obtained.

That we should not rashly question the truthfulness of a patient's statement as to how the foreign body got into the bladder may be instanced by the following cases :

Leonard (*Cincinnati Lancet and Observer*, 1872, xv, p. 429) reports the case of a man who, while working in a wheat-field, experienced a tickling sensation at the meatus urinarius. He was not able at once to cease his work and search for the source of the irritation, but it subsided after a little time, and he had forgotten all about the occurrence until a few months later he began to manifest symptoms of vesical calculus. Dr. Leonard performed lateral cystotomy on him, six months after the episode

in the wheat-field, and removed a calculus, the nucleus of which was a head of wheat.

H. W. Freeman (*Lancet*, 1885, I, p. 340) performed lateral cystotomy on a boy aged four years, and extracted from his bladder a phosphatic calculus, the nucleus of which was a darn-needle, which his mother had seen him swallow eighteen months previously.

A curious case is recorded by Reginald Harrison (*Lancet*, 1885, I, p. 287) of a sailor, admitted to hospital with symptoms of stone in the bladder, from whom he removed, by lateral cystotomy, a calculus having for its nucleus a whalebone tobacco-pipe mouth-piece, which the man persisted in asserting he had swallowed a long time before. It still retained a distinct odor of tobacco.

Alfred Roberts (*Medical Times and Gazette*, London, 1859, XL, p. 113) extracted by perineal cystotomy a phosphatic calculus from a man aged forty-seven years, having a piece of slate-pencil as its nucleus, which had been swallowed accidentally by the man, in the presence of reputable witnesses, six months before. There are also numerous instances of foreign bodies which have got into the viscus, by a process of ulceration, from neighboring parts.

Thus Otis (*Medical Gazette*, New York, 1880, VII, p. 181) reports a case in which he removed a calculus by perineal cystotomy, the nucleus of which was a piece of cloth which had formed part of the seat of the man's trousers when he had sustained a serious injury to his perineum by a fall a long time before the operation.

T. M. Ghose (*Indian Medical Record*, Calcutta, 1893, v, p. 387) reports the case of a boy, aged five years, upon whom he performed lateral cystotomy, extracting from his bladder a splinter of wood which had been driven into his perineum by a fall one year previously.

Many cases are recorded in which gunshot wounds have occurred in neighboring organs and the bullet subsequently been extracted from the bladder. The duration of the stay of foreign bodies in the bladder varies greatly. In many cases it is difficult

to determine just how long the foreign body has been in the bladder, or how long it may have been in the urethra before reaching that organ. In my own case, I think the fact that it had been in the bladder the greater part, if not the whole, of the fourteen years is proven by the occasional occurrence of pain in the hypogastrium, and at the meatus urinarius immediately after urination, and by the fact that there was no retention of urine, while he at times suffered from the symptoms of vesical irritation. I lay stress on the absence of retention of urine, because, had the foreign body been lodged in the urethra or prostate, the paroxysmal attacks which he had, undoubtedly due to the movements of the foreign body, would in all probability have been accompanied at some time or other by occlusion of the canal.

Fleury (*Bulletin de la Société de Chirurgie de Paris*, 1878, iv, p. 39) reports a most interesting case. A man came to the hospital at Clermont suffering from the symptoms of stone in the bladder. On examination he was found to have a recto-vesical fistula. He frequently passed gases through his urethra, which evidently emanated from his rectum. Fleury performed bilateral cystotomy and removed a cordwainer's awl, covered over with calculous material, from the bladder. The man persisted in saying that the awl had been inserted into his urethra by a companion fifteen years before he came to the hospital. This is the longest duration of any foreign body in the bladder of which I can find a record, except the case reported by Steinitz (*Breslau Aertzl. Zeitschrift*, 1879, i, p. 24), in which a fragment of rubber catheter remained in a man's bladder seventeen years, and was passed spontaneously after Steinitz had dilated a stricture in the patient's urethra. My own case ranks third in duration.

Hanke (*Journal der Chirurgie und Augenheilkunde*, Berlin, 1835, xxiii, p. 497) records a case in which he removed by perineal cystotomy an ear spoon from the bladder of a man who said it had been introduced many years before.

J. W. Baker (*British Medical Journal*, 1874, ii, p. 709) performed lateral cystotomy on a man and removed a calculus having as its nucleus a fragment of rubber catheter, which had been broken in the bladder five years previously.

Van Buren (*New York Medical Times*, 1854, III, p. 225) removed by lateral cystotomy, from the bladder of a young man twenty years of age, a piece of slate-pencil, which had been introduced by a comrade five years before.

Brown (*Johns Hopkins Bulletin*, 1892, III, p. 75), Gillon (*British Medical Journal*, 1887, II, p. 239), and Cutler (*Lancet*, 1859, I, p. 185), all report cases in which the duration of the stay was three years.

I have also collected nine cases in which a foreign body remained in the male bladder for two years.

The amount of incrustation, as would be expected, varies greatly with the nature of the foreign body. On this point Poulet ("Treatise on Foreign Bodies in Surgical Practice") says, "All authors are not agreed upon the immunity of some bodies from incrustation. Some believe with Nélaton that certain substances, such as wax, are never incrustated. The observation of a considerable number of cases studied with reference to this question has proven that no substance is completely free from vesical incrustation, though all are not equally predisposed to it."

Smooth substances, such as glass, are, of course, much less likely to become incrustated than rough objects, which offer points of vantage for the lodgement of calculous material. In my own case there was but very little incrustation. I think this is to be attributed to the fact that it was smooth, and being very light did not remain in one position any length of time, but floated about rather freely.

Another circumstance which seems to have been quite overlooked by those who have written upon this subject is as regards the condition of the bladder at the time of the entrance into it of the foreign body. My patient was in perfect health, young, strong, and vigorous. In the majority of cases, however, there is apt to be some pathological condition of the bladder or urethra, and under such circumstances deposition of calculous material as a rule quickly occurs.

Again, in the greater number of instances the foreign body has been removed so soon after its entrance that there has not been time for any deposition to occur.

Of the 222 cases that I have collated we find that in seventy-four no statement is made as to whether the foreign body was incrustrated or not. In forty-nine there was no deposit. In thirty there was a deposit of phosphates. In four cases there was a deposition of uric acid. In two there was a mixed deposit of the phosphates and uric acid. In one case there was stated to have been a deposit of ammonio-magnesium salts. In fifteen cases the foreign body formed the nucleus of a phosphatic calculus, in one case of a uric acid calculus, and in one case of a mixed uric acid and phosphatic calculus. In twenty-one instances there was simply the statement that the foreign body was incrustrated. In twenty-four cases the foreign body was stated to have formed the nucleus of a calculus, the nature of the calculus not being reported.

As regards the exit of foreign bodies from the male bladder, there are three general heads under which we may classify all the cases.

(1) Those cases in which the foreign body is expelled spontaneously.

(2) Those in which the foreign body is extracted with instruments without any cutting operation and excluding lithotripsy.

(3) Those in which the removal of the foreign body is effected by means of cystotomy or lithotripsy.

Unfortunately the spontaneous emission of a foreign body is of very rare occurrence. Among 391 cases of foreign body in the male bladder, collected by Denucé (*Journal de Bordeaux*, 1856), only fourteen terminated in this happy manner.

In my collection of 222 cases there were only fourteen of this kind. Of these fourteen instances in six the foreign body was a piece of gutta-percha bougie, in two it was a fragment of flexible rubber catheter, and in two it was a whole flexible rubber catheter.

Of the remaining cases Coulson (*Medical Times and Gazette*, London, 1856, XIII, 212) reports a case in which three inches of a silver catheter remained in the bladder for three weeks and was then expelled spontaneously.

Maxwell (*Transactions of the South Carolina Medical Asso-*

ciation, 1870, p. 15) saw a case where a young man, while masturbating, introduced a pine-leaf into his urethra, from whence it got into the bladder. It passed out with the urine a few days later.

Dr. William Hunt (*Philadelphia Medical Times*, 1872) had a boy under his care who had introduced a galvanized metal watch-chain into his urethra. It slipped into the bladder, and when Dr. Hunt saw him it was completely within that organ. Dr. Hunt directed that the boy should drink copiously of water, be given a diuretic mixture, and should hold his urine as long as possible. The watch-chain was passed with the first gush of urine.

H. M. Wheeler (*Physician and Surgeon*, Ann Arbor, 1879, I, p. 262) reports the case of a young man who had passed a button-hook into his bladder. It was passed spontaneously on the day before that which had been set by the attending surgeons to operate for its extraction.

In this connection Fleury (*Bulletin de la Société de Chirurgie de Paris*, 1878, IV, p. 343) reports a case in which a metallic sound broke, leaving a fragment in the bladder. Four days later, while straining at micturition, the fragment appeared just within the margin of the anus, protruding into the rectum, whence it was easily extracted by the surgeon's fingers.

A. Post (*Boston Medical and Surgical Journal*, 1881, CXXI, p. 630) had a man under his care who, three months before consulting him, had introduced a lead-pencil into his urethra to relieve some irritation there. It had slipped from his grasp and entered the bladder. By straining down, the patient caused it to protrude into the urethra, whence Dr. Post was able to extract it with forceps.

Of the cases in which measures not involving an operation were employed for the extraction of the foreign body we find forty-eight cases in which extraction was accomplished by means of the lithotrite, without crushing the object. In six instances instruments especially constructed to meet the individual case were used. In three cases a *brisée pierre* was employed, in three cases forceps of various kinds were used. In two cases Heur-

teloup's instrument, and in one case Mercier's instrument were used to effect the extraction. In one case Collin's *redresseur* was employed. In one case a lithotrite scoop effected the purpose. In three cases the foreign body was found at the autopsy.

Gregory (*Humboldt Medical Archives*, St. Louis, 1868, II, 280) had as a patient a man who several years previously, during auto-catheterization, broke off the tip of a small silver catheter in his bladder. When he came under Dr. Gregory's care a calculus had formed about the catheter tip, and he presented all the symptoms of stone in the bladder. Dr. Gregory crushed off with a lithotrite the calculous material, but could not succeed in grasping the foreign body and extracting it, although it could be distinctly felt. He left it in the bladder, as he deemed the man too weak for operation. The patient was much disgruntled and passed from under Dr. Gregory's care. The further history of the case is not known.

W. Johnson (*British Medical Journal*, 1889, I, p. 743) reports an interesting case of a whole rubber catheter disappearing into the bladder during the attempt of a layman to catheterize the patient. When seen by Dr. Johnson a portion of the catheter projected from the bladder into the membranous urethra. By some delicate manoeuvring he managed to engage a sound of smaller calibre than the catheter in the protruding portion and thereby withdrew the whole instrument.

The operative measures which have been employed to effect the extraction of foreign bodies from the male bladder include practically every method devised for the extraction of vesical calculi. In my series of cases lateral cystotomy heads the list, there having been forty-three cases in which it was performed. In forty-two, median cystotomy was done. In twelve cases the operation was merely stated to have been a perineal cystotomy; and in twelve cases suprapubic cystotomy was performed. Lithotomy was resorted to in ten cases, litholapaxy in six cases, bilateral cystotomy in three cases, medico-bilateral cystotomy in one case, Allarton's median cystotomy in one case.

In one case the foreign body was extracted with forceps

through an incision in the membranous urethra. In three cases it was extracted with a lithotrite after internal urethrotomy.

Denucé analyzed 249 cases with regard to the method of extraction, and found prior to 1830 there had been 100 cases of lithotomy, and 27 cases in which the foreign body had been extracted without operation. Between 1830 and the date of his article (about 1855 or 1856) he had collected only 21 lithotomies among 122 cases.

I have collected 186 cases occurring between the year 1850 and the present time (1897), in which either operation or extraction was necessary to remove the foreign body.

Among these cases there were 104 operations and 78 extractions. In four other instances the operator was able to get the foreign body out after doing a urethrotomy. Under extractions I include, of course, lithotrity or litholapaxy.

As we would surmise from the number and variety of the procedures which have been used for the removal of foreign bodies from the male bladder, it is practically impossible to formulate any general rule as to the most available measure. Each case must be judged for itself.

G. Buckston Browne, who has had much experience in dealing with cases of this kind, says, in his article on foreign bodies in the bladder, in Heath's "Surgical Dictionary," that extraction should first be attempted with a lithotrite or with Sir Astley Cooper's forceps, or if the foreign body be small, like a bead or pebble, we may try to wash it out through an evacuating lithotrity tube. If these fail, he advises that in boys a lateral cystotomy should be performed, in adults an external urethrotomy (*la boutonnière*), and the foreign body removed with forceps through the incision. Should this not be possible, the operation should be converted into a median cystotomy.

Ashhurst ("Principles and Practice of Surgery," Fifth Edition, 1889, p. 416) says that foreign bodies "may occasionally be spontaneously expelled from the bladder, or may be extracted with urethral forceps or a small lithotrite, if the surgeon succeed in catching them in the direction of their long axis.

In the male, however, it is usually necessary to resort to

lithotrity (if the nature of the body admit of its being crushed) or to lithotomy, the median being in such cases the preferable operation.

Willard (Philadelphia *Medical News*, November 26, 1887), in a paper read before the Philadelphia County Medical Society, said he desired to emphasize the value of the evacuator in cases of foreign body, as well as to remove calculous fragments. He said it had been so satisfactory in his hands that he always resorted to it with confidence to the exclusion of all other primary devices. This method does not seem to have been adopted to the extent its apparent value warrants, as there are but few mentions of its having been tried.

Henriet (*Annales des Maladies des Organes Genito-Urinaires*, Paris, 1883-84, II, 235) advocates, first, the use of an ordinary lithotrite as a means of grasping and withdrawing the object. He says it is much to be preferred above all the various complicated instruments devised for this purpose. If this is not successful, he says, lithotrity should be done, as it is better than any cutting operation. Most French authorities agree in this statement, and in France it seems to be the almost universally adopted routine method for the extraction of foreign bodies.

The toleration possessed by the bladder for foreign bodies is more than we would be apt to infer from our ordinary conceptions of the ease with which a cystitis may be established.

In the 222 cases in my series there were but twelve deaths, the other 210 patients making complete recoveries. Of the cases which resulted fatally, we can see by the following abstracts that two of them were not directly due to the foreign body in the bladder.

J. S. Wight (*Brooklyn Medical Journal*, New York, 1890, IV, p. 561) performed perineal cystotomy on a man aged forty-five years, and removed a piece of a soft catheter which had been broken in the bladder eighteen months before. The man was convalescing from the operation when he died of an intercurrent dysentery.

W. S. Harvey (*Clinique*, Chicago, 1894, xv, p. 249) reports a case in which he removed by suprapubic cystotomy a fragment

of hard rubber catheter which had been left in the bladder of the patient four days previously by another doctor who was catheterizing him. The man did well after the operation, but died on the eighteenth day of pulmonary phthisis, with which he had long been afflicted.

Of the remaining ten cases, in three the foreign body was found at autopsy: thus Henry Morris (*Guy's Hospital Reports*, 1846, v, p. 241) records the case of a man who was in the habit of introducing straws into his urethra to relieve irritation there, from which he often suffered. One month before coming to Guy's Hospital a straw had broken, leaving a fragment in his bladder. When he came to the hospital he was much emaciated and too weak for operation. He died, and at the autopsy a vesical calculus was found, having as its nucleus a bit of straw.

Steiner (*Weiner medicinische Wochenschrift*, 1868, XVIII, p. 745) found at an autopsy on a man who had suffered from cystitis for six years a calculus, the nucleus of which was a rolled-up piece of paper. The patient had died from peritonitis, the result of perforation of the bladder.

Gould (*British Medical Journal*, 1858, LVIII, p. 100) reports the case of a man, aged twenty-seven years, who, when seen, was so weak that an operation was deemed inadvisable. The patient died, and at the autopsy there was found a calculus having as its nucleus the stem of a plant, which had been introduced by him a long time before to allay urethral irritation.

In the remaining seven cases death occurred after operation. They were as follows:

McWhinnie (*Medical Times and Gazette*, London, 1856, XIII, p. 591) performed perineal cystotomy on a man aged twenty-six years, and removed a piece of sealing-wax from his bladder, into which it had been introduced four years before. The patient was very weak and emaciated and died shortly after the operation.

Van Buren (*Transactions of the New York Pathological Society*, 1879, III, p. 229) performed lateral cystotomy on a man, and extracted from his bladder a calculus, having for its nucleus a piece of wheat-straw, introduced by the patient many years

before. Death occurred, sixteen days after operation, from pyæmia.

H. Fenwick (*Transactions of the Pathological Society of London*, 1867, xxxviii, p. 193) reports the case of a deaf mute, who had suffered from symptoms of stone in the bladder for three months. The patient was a sexual pervert. Mr. Fenwick performed lithotrity. Death occurred shortly after the operation, and at the autopsy an India-rubber umbrella ring was found in the bladder. Death had resulted from purulent peritonitis, the result of perforation of the bladder.

J. C. Nott (*New Orleans Medical and Surgical Journal*, 1858, xv, p. 183) performed lateral lithotomy on a man, aged thirty-four years, who through sexual perversion had introduced a piece of wax into his bladder five months before. He found eight calculi but no wax. The patient died four days after the operation.

Weiss (*Wiener medicinische Wochenschrift*, 1873, xxiii, p. 661) removed a piece of steel, five and a half inches in length, from the bladder of a man by perineal cystotomy. The man died three weeks after operation.

Brown (*Johns Hopkins Bulletin*, 1892, iii, p. 75) relates the case of a man, aged fifty-nine years, upon whom he performed lateral cystotomy. The patient three years previously, during auto-catheterization, had had a No. 16 F. catheter break in his bladder. When Dr. Brown operated, the man was very much emaciated, and had suffered for a long time from cystitis and pyelonephritis. He extracted the fragment surrounded by a mass of calculous material. The patient only survived the operation twenty-two hours.

Bryant (*Lancet*, 1881, i, p. 45) reports the case of a man, aged thirty-nine years, who had an old stricture. Two days previous to admission to Mr. Bryant's ward in the hospital, he had broken off a fragment of catgut bougie in his bladder. Mr. Bryant did a median cystotomy. The patient died three weeks later of purulent peritonitis. At the autopsy the posterior wall of the bladder was found to have been perforated.

These cases serve to show how rarely a foreign body in the

bladder is the cause of death. In every case death as the result of the presence of the foreign body might, in all reasonable probability, have been avoided, had the patient not neglected himself or purposely concealed his condition.

As regards the diagnosis of the presence of a foreign body in the bladder, the means first employed have been, as a rule, those ordinarily adopted to ascertain the presence of a vesical calculus.

The Germans, and many authorities in this country, are strong advocates of the use of the cystoscope to determine the exact nature and position of the foreign body. No doubt the *x*-rays will prove of service when the nature of the foreign body is such as to be impervious to them. I spoke to Dr. H. W. Cattell about their application in my case, but he informed me that they would not show the substance of which it was composed.

LIST OF CASES OF FOREIGN BODIES IN THE MALE BLADDER, INTRODUCED THROUGH THE URETHRA.

1. ABBE, R.: Seventy years; rubber catheter; tied in urethra by a doctor; extracted with a lithotrite; over six months; recovery.—*New York Medical Record*, 1881, xx, 705.

2. ADAMS, J. A.: Thirty-four years; glass rod; slipped in urethra by a woman; incision in membranous urethra; three or four weeks; recovery.—*Glasgow Medical Journal*, 1883-84, xx, 24.

3. ADAMS, J. A.: Fifty-five years; piece of black elastic catheter; during auto-catheterization; suprapubic cystotomy; two years; formed nucleus of phosphatic calculus; recovery.—*Lancet*, London, 1889, i, 1243.

4. AINSWORTH, F. E.: Fifty years; piece of straw; to induce sexual excitement; lateral cystotomy; three months; four phosphatic calculi found, each with a piece of straw as a nucleus; recovery.—*New York Medical Record*, 1881, xx, 64.

5. AMUSSAT, A.: Eighty-two years; piece of gum catheter; during auto-catheterization; extracted with a lithotrite; a few days; recovery.—*Gazette des Hôpitaux*, Paris, 1891, 497.

6. AMUSSAT, A.: Twenty-six years; stick of wood; masturbation; extracted with a lithotrite; five days; recovery.—*Gazette des Hôpitaux*, Paris, 1891, 497.

7. ANDERSON, WILLIAM: Adult; piece of home-made gutta-percha bougie; being passed by patient; passed spontaneously; some hours; no deposit; recovery.—*Lancet*, London, 1863, p. 261.

8. ASHHURST, J.: Sixty-one years; piece of rubber catheter; auto-catheterization; median cystotomy; seven weeks; phosphatic deposit; recovery.—*Philadelphia Medical Times*, 1882-83, xiii, 153.

9. BAKER, J. W.: Adult; piece of rubber catheter; auto-catheterization; lateral cystotomy; five years; formed nucleus of phosphatic calculus; recovery.—British Medical Journal, London, 1874, II, 289.

10. BAYLIES, W.: Adult; stem of plant; perineal cystotomy; five months; formed nucleus of a calculus; recovery.—Massachusetts Medical Society, Boston, 1808, I, 90.

11. BAZY, P.: Adult; toothpick; masturbation; withdrawn by Collin's *redresseur*; recovery.—Annales des Maladies des Organes Genito-Urinaires, Paris, 1883–84, II, 235.

12. BAZY, P.: Forty years; cylinder of pork; masturbation; withdrawn by specially-made forceps; recovery.—Annales des Maladies des Organes Genito-Urinaires, Paris, 1891, IX, 14.

13. BEALL, E. J.: Twenty years; piece of slate-pencil; to relieve urethral irritation; median cystotomy; ten days; somewhat incrustated; recovery.—Texas Courier Record of Medicine, 1885–86, III, 494.

14. BERGER: Fifty-two years; clay pipe-stem; median cystotomy; recovery.—Bulletin et Mémoire de la Société de Chirurgie, Paris, 1885, N. S. XI, 345.

15. BILLROTH: Adult; paint-brush; extracted with lithotrite; fourteen days; recovery.—Allgemeine Wiener medicinische Zeitschrift, 1884, XXIX, 129.

16. BIRKETT, J.: Adult; piece of gutta-percha catheter; auto-catheterization; lithotrity (two crushings); one month; formed nucleus of a uric acid calculus; recovery.—Lancet, London, 1858, I, p. 11.

17. BISSHOPP, J.: Twenty-two years; ivory crochet-needle; masturbation; median cystotomy; four days; incrustated with lithates; recovery.—British Medical Journal, 1875, I, 747.

18. BOECKEL: Twenty-six years; two porcelain shirt-buttons; masturbation; extracted with lithotrite; some days; no deposit; recovery.—Gazette Médecine de Strasbourg, 1878, 3. S., VII, 4.

19. BOYER: Forty-one years; rubber sound; being passed by patients; crushed and withdrawn with lithotrite; some days; no deposit; recovery.—Gazette des Hôpitaux, Paris, 1856, XXIV, 222.

20. BRIGGS, W. T.: Adult; piece of steel; to relieve urethral irritation; extracted with lithotrite; five days; recovery.—Nashville Journal of Medicine and Surgery, 1889, XLIII, 133.

21. BRIGGS, W. T.: Adult; piece of chewing-gum; medio-bilateral cystotomy; three or four months; formed nucleus of calculus; recovery.—Nashville Journal of Medicine and Surgery, 1889, XLIII, 133.

22. BROWN, of Baltimore: Fifty-nine years; piece of No. 16 F. catheter; auto-catheterization; lateral cystotomy; three years; much deposit of calculous material; death.—Johns Hopkins Bulletin, 1892, III, 75.

23. BROWN, B.: Twenty-seven years; leather shoestring; masturbation; lateral cystotomy; fifteen months; deposit of phosphates and carbonate of lime; recovery.—Journal of the American Medical Association, 1854, N. S., XXVIII, 393.

24. BROWNE, of Belfast: Fifty years; bone crochet-needle; masturbation; median cystotomy; two or three months; recovery.—Dublin Hospital Gazette, 1859, N. S., VI, 219.

25. BROWNE, G. B.: Sixty-five years; cork; to relieve incontinence of urine; lithotrity; seven months; recovery.—Transactions of the Medical Society of London 1894–95, XVIII, 378.

26. BROWNE, G. B.: Seventy years; piece of soft-rubber catheter; auto-catheterization; extracted with lithotrite after internal urethrotomy; about two months; deposit of phosphates; recovery.—*Lancet*, London, 1891, I, 769.

27. BROWNE, G. B.: Adult; home-made paraffin bougie; to relieve urethral irritation; extracted with lithotrite; six weeks; recovery.—*British Medical Journal*, 1888, I, 1382.

28. BRYANT: Thirty-nine years; top of catgut bougie; being passed by patient; median cystotomy; two days; death.—*Lancet*, London, 1881, I, 456.

29. BRYANT, J. D.: Sixteen years; tip of flexible catheter; being catheterized, not stated whether by doctor or not; median cystotomy; three years; formed nucleus of calculus; recovery.—*New York Medical Record*, 1892, XLII, 517.

30. BUCHANAN: Adult; gum catheter; during catheterization, not stated whether by doctor or not; withdrawn by specially-made instrument; nine months; calculous deposit; recovery.—*London Medical Gazette*, 1840, XXVI, 587.

31. BUCK, GURDON: Sixty years; piece of flexible catheter; during catheterization, not stated whether by doctor or not; extracted with lithotrite; twenty-two hours; no deposit; recovery.—*New York Medical Record*, 1869, 529.

32. BUCK, GURDON: Adult; piece of gutta-percha bougie; being passed for nocturnal emissions; lithotrity; four days; recovery.—*Medical Times*, New York, 1852, I, 39.

33. BYRD, W. A.: Seventy-one years; piece of Squire's vertebrated catheter; auto-catheterization; Bigelow's operation; twenty-two hours; no deposit; recovery.—*Medical and Surgical Reporter*, Philadelphia, 1884, I, 104.

34. CADGE, WILLIAM: Twenty-five years; candle-wax; masturbation; extracted with lithotrite; eight months; calculous deposit; recovery.—*British Medical Journal*, 1873, II, 569.

35. CALLOWAY: Eighteen years; piece of chalk with string; masturbation; median cystotomy; recovery.—*Medical Times and Gazette*, London, 1856, XIII, 213.

36. CAMPBELL, G. W.: Twenty-one years; lead-pencil; to relieve urinary retention; lateral cystotomy; five weeks; uric-acid deposit; recovery.—*London Medical Gazette*, 1839-40, II, 435.

37. CASINI, A.: Thirty-three years; piece of candle-wax; to relieve urethral irritation; median cystotomy; recovery.—*Gior. Internat. d. Sc. Med.*, Napoli, 1891, N. S., XIII, 407.

38. CAUDMONT: Twenty-seven years; piece of pencil; extracted with lithotrite; recovery.—*Bulletin de la Société Anatomie de Paris*, 1848, XXIII, 362.

39. CHEVALIER, E.: Thirty-three years; rubber tube; extracted with forceps; three hours; no deposit; recovery.—*Annales des Maladies des Organes Genito-Uri-naires*, Paris, 1890, VIII, 414.

40. CHEVALIER, E.: Adult; guide for internal urethrotomy; broke during internal urethrotomy; extracted with lithotrite; a few moments; none; recovery.—*Annales des Maladies des Organes Genito-Uri-naires*, Paris, 1890, VIII, 414.

41. CHEVALIER, E.: Sixty-eight years; piece of rubber catheter; auto-catheterization; suprapubic cystotomy; recovery.—*Annales des Maladies des Organes Genito-Uri-naires*, Paris, 1890, VIII, 414.

42. CHIENNE: Adult; whole soft-rubber catheter; auto-catheterization; extracted with lithotrite; twenty days; slightly coated with phosphates; recovery.—*Edinburgh Medical Journal*, 1881-82, XXVII, 744.

43. COCK: Adult; piece of parsley stem; to push back calculus gravel in urethra; perineal cystotomy; formed nucleus of phosphatic calculus; recovery.—*Lancet*, London, 1852, II, 442.
44. COCK: Adult; piece of gutta-percha bougie; being passed by patient; median cystotomy; sixteen days; somewhat incrustated; recovery.—*Lancet*, London, 1855, II, 493.
45. COCK: Forty-six years; piece of home-made gutta-percha bougie; being passed by patient; median cystotomy; fourteen days; phosphatic incrustation; recovery.—*Medical Times and Gazette*, London, 1856, XIII, 212.
46. COLLIS, M. H.: Fifty-six years; bone enema-tube; patient used it as a bougie; median cystotomy; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1854, XVIII, 54.
47. COOTE, H.: Thirty years; piece of gutta-percha bougie; passed by patient; extracted with lithotrite; two weeks; recovery.—*Medical Times and Gazette*, London, 1858, XVI, 193.
48. COTTON, CHARLES: Twenty-four years; piece of gutta-percha bougie; passed by patient; extracted with lithotrite; three days; recovery.—*Associated Medical Journal*, London, 1854, 1053.
49. COULSON: Adult; piece of silver catheter; broke during catheterization, not stated by whom it was being passed; spontaneously; three weeks; recovery.—*Medical Times and Gazette*, London, 1856, XIII, 212.
50. CUTLER: Twenty-three years; fine glass tube; median cystotomy; three years; incrustated with phosphates; recovery.—*Lancet*, London, 1895, I, 185.
51. DARWIN: Adult; catgut bougie; passed by patient; macerated in the urine and passed spontaneously; four months; no deposit; recovery.—*Memoirs of the Medical Society of London*, 1792, III, 513.
52. DAVIDSON, D. M.: Adult; piece of vulcanized rubber catheter; auto-catheterization; perineal cystotomy; five months; formed nucleus of calculus; recovery.—*Indian Medical Gazette*, Calcutta, 1891, XXVI, 341.
53. DEMEL, THEODORE: Twenty-three years; pencil; lateral cystotomy; forty-two days; much incrustated; recovery.—*Wiener medicinische Wochenschrift*, 1863, XIII, 805.
54. DEPRES: Sixty-six years; hard-rubber sound; passed by patient; crushed calculous material and withdrew sound with lithotrite; three months; incrustated; recovery.—*Gazette des Hôpitaux*, Paris, 1879, LIII, 41.
55. DERBY, R. H.: Adult; piece of catheter; passed by a doctor; extracted with lithotrite; four weeks; somewhat incrustated; recovery.—*Boston Medical and Surgical Journal*, 1867, LXXVI, 171.
56. DILLSON, J. H.: Fifty-four years; piece of flexible catheter; auto-catheterization; extracted with Heurteloup's instrument; ten days; recovery.—*American Journal of the Medical Sciences*, Philadelphia, 1850, N. S., xx, 268.
57. DUBUC: Forty-nine years; piece of hard-rubber sound; passed by patient; spontaneously after internal urethrotomy; recovery.—*Gazette des Hôpitaux*, Paris, 1874, XLVII, 742.
58. DUNNING, L. H.: Fifty-seven years; cigarette-holder; masturbation; extracted with lithotrite after internal urethrotomy; one month; recovery.—*Medical Herald*, Louisville, 1886, VIII, 57.
59. EBERMANN: Adult; two filiform bougies; passed by a doctor; extracted

with lithotrite; three months; recovery.—*St. Petersburger medicinische Zeitschrift*, 1871, II, 295.

60. EDWARDS, F. S.: Forty years; pilot bougie; passed by a doctor; extracted with lithotrite after internal urethrotomy; two days; incrustrated with phosphates; recovery.—*British Medical Journal*, London, 1882, I, 816.

61. ELBEN: Adult; one inch of wire; extracted with lithotrite; three days; recovery.—*Medicinische Correspondenzblatt der Württemberg ärztliche Verein*, 1878, XLVIII, 220.

62. EVE, D.: Forty years; piece of slippery-elm bougie; passed by a doctor; bilateral cystotomy; two years; formed nucleus of a friable calculus; recovery.—*Journal of Cutaneous and Genito-Urinary Diseases*, New York, X, 397.

63. FENWICK, E. H.: Twenty-two; India-rubber umbrella ring; masturbation; found at autopsy; had symptoms of stone for three months prior to death; formed nucleus of stone; death.—*Transactions of the Pathological Society of London*, 1886-87, XXVIII, 193.

64. FENWICK, E. H.: Twenty-one years; paraffin taper; masturbation; extracted with lithotrite; recovery.—*Transactions of the Medical Society of London*, 1894, XVII, 341.

65. FERGUSSON, WILLIAM: Nineteen years; hard-rubber bougie; passed by patient; extracted with lithotrite; two months; some incrustation; recovery.—*Lancet*, London, 1863, II, 215.

66. FERGUSSON, WILLIAM: Adult; piece of gutta-percha bougie; passed by patient; lateral cystotomy; six months; slightly incrustrated with phosphates; recovery.—*Lancet*, London, 1866, II, 9.

67. FLEMING, C.: Sixty years; gum-elastic catheter; passed by patient; specially-made forceps; twenty-four hours; no deposit; recovery.—*Dublin Medical Press*, 1863, L, 329.

68. FLEMING, C.: Thirty years; rubber bougie; passed by patient; specially-made forceps; six weeks; small phosphatic deposit; recovery.—*Dublin Medical Press*, 1863, L, 329.

69. FLEURY: Seventy-eight years; piece of metallic sound; passed by patient; passed through anus during straining at micturition; four days; no deposit; recovery.—*Bulletin de la Société de Chirurgie de Paris*, 1878, IV, 343.

70. FLEURY: Thirty-five years; cordwainer's awl; introduced by a comrade; bilateral cystotomy; twenty years; somewhat incrustrated; recovery.—*Bulletin de la Société de Chirurgie de Paris*, 1878, IV, 391.

71. FORBES, W. S.: Fifty years; willow twig; passed by patient; litholapaxy; ten months; incrustrated with phosphates; recovery.—*Journal of the American Medical Association*, November 28, 1896.

72. FOSTER, C.: Adult; bone tip of catheter; auto-catheterization; lateral cystotomy; one year; formed nucleus of phosphatic calculus; recovery.—*Lancet*, London, 1867, II, 194.

73. FURNER, W.: Forty-five years; black gum catheter; auto-catheterization; median cystotomy; twenty days; incrustrated with phosphates; recovery.—*Lancet*, London, 1890, I, 542.

74. GAGE, HOMER: Twenty-three years; fragment of bougie; passed by a doctor; suprapubic cystotomy; one month; incrustrated with phosphates; recovery.—*Boston Medical and Surgical Journal*, 1891, CXXIV, 132.

75. GARDE, H. C.: Forty-five years; threepenny piece; passed by patient to relieve incontinence of urine; extracted with lithotrite; two weeks; incrusted with phosphates; recovery.—*Australasian Medical Gazette*, Sydney, 1887–88, VII, 248.
76. GAYET: Adult; piece of pencil; introduced by patient; lateral cystotomy; several weeks; somewhat incrusted; recovery.—*Lyon Médical*, 1875, XIX, 518.
77. GHON, A. L.: Thirty-one years; piece of pine-wood; introduced by patient; lateral cystotomy; two months; incrusted with phosphates; recovery.—*Medical News*, Philadelphia, 1888, LII, 233.
78. GILLON, G. G.: Forty-three years; piece of a bone pen-holder; introduced by patient to push back gravel; suprapubic cystotomy; three or four years; incrusted with phosphates and uric acid; recovery.—*British Medical Journal*, London, 1887, II, 239.
79. GOSSE, C.: Eighteen years; piece of flexible catheter; auto-catheterization; median cystotomy; twenty-four hours; no deposit; recovery.—*Lancet*, London, 1879, II, 545.
80. GOULD: Twenty-seven years; piece of stem of plant; introduced by patient; found at autopsy; formed nucleus of phosphatic calculus; death.—*Boston Medical and Surgical Journal*, 1858, LVIII, 100.
81. GOULD, A. P.: Adult; piece of rubber tubing; introduced by patient to give injection for gonorrhœa; extracted with lithotrite; recovery.—*Transactions of the Medical Society of London*, 1894, XVII, 341.
82. GOULEY: Twenty-six years; cylindrical piece of potato; masturbation; extracted with Heurteloup's instrument; three days; incrusted with phosphates; recovery.—*New York Medical Journal*, January 2, 1897.
83. GOULEY: Sixty-five years; piece of flexible catheter; auto-catheterization; extracted with Mercier's instrument; some hours; no deposit; recovery.—*New York Medical Journal*, January 2, 1897.
84. GREGORY: Seventy-three years; piece of silver catheter; auto-catheterization; crushed calculous material off with lithotrite, but left fragment of catheter in bladder; several years; formed nucleus of calculus; recovery.—*Humboldt Medical Archives*, St. Louis, 1868, II, 280.
85. GRIEG: Thirty-three years; piece of sealing wax; masturbation; lithotritry; over one month; incrusted with phosphates; recovery.—*Edinburgh Medical Journal*, 1868, XIV, 312.
86. GROSS, S. D.: Thirty-nine years; piece of a pencil; introduced by patient, who suffered from gravel; lateral cystotomy; one month; slight uric acid deposit; recovery.—*North American Medico-Chirurgical Review*, Philadelphia, 1857, I, 413.
87. HALDERMAN, D.: Thirty years; piece of rubber tubing; masturbation; lateral cystotomy; twelve days; slight earthy deposit; recovery.—*Columbus Medical Journal*, 1884–85, LIII, 403.
88. HALSTED, W. S.: Thirty-five years; piece of flexible catheter; auto-catheterization; lateral cystotomy; six or eight months; three small calculi each with a piece of the catheter as a nucleus; recovery.—*New York Medical Journal*, 1884, XXXIX, 227.
89. HAMILTON, E.: Thirty-four years; home-made gutta-percha catheter; auto-catheterization; median cystotomy; three and a half months; recovery.—*Medical Press and Circular*, London, 1872, XIII, 359.
90. HAMILTON: Forty-seven years; feather; introduced by patient to relieve

urethral irritation; perineal cystotomy; six months; five calculi, the nucleus of each being a piece of the feather; recovery.—*Medical Times and Gazette*, London, 1865, I, 146.

91. HANKE: Fifty-three years; ear-spoon; introduced by patient's wife; perineal cystotomy; many years; much incrusted; recovery.—*Journal der Chirurgie und Augenheilkunde*, Berlin, 1835, XXIII, 497.

92. HARD, A.: Seventy years; piece of English catheter; auto-catheterization; extracted by specially-made screw on the end of a piece of wire; some hours; no deposit; recovery.—*Transactions of the Minnesota Medical Society*, 1881, 78.

93. HARRISON, R.: Thirty-eight years; pencil case; introduced by a woman; extracted with lithotrite; some hours; no deposit; recovery.—*Lancet*, London, August 11, 1897.

94. HARVEY: Twenty-five years; piece of hard-rubber catheter; introduced by a doctor; suprapubic cystotomy; four days; no deposit; died nineteen days after operation of pulmonary phthisis.—*Clinique*, Chicago, 1894, XV, 249.

95. HAWKINS, CÆSAR: Fifty-eight years; piece of gutta-percha catheter; auto-catheterization; extracted with lithotrite; recovery.—*London Medical Gazette*, 1849, IX, 699.

96. HEATH, C.: Seventy-one years; piece of silver catheter; auto-catheterization; median cystotomy; five days; recovery.—*British Medical Journal*, 1879, I, 628.

97. HEURIET: Thirty-seven years; metal cap, four centimetres long; lithotrity; formed nucleus of phosphatic calculus; recovery.—*Annales des Maladies des Organes Genito-Urinaires*, Paris, 1883-84, II, 235.

98. HEURIET: Sixty-five years; piece of filiform bougie; introduced by a doctor; lithotrity; last crushing six months after introduction; recovery.—*Annales des Maladies des Organes Genito-Urinaires*, Paris, 1883-84, II, 235.

99. HEURIET: Seventy years; piece of rubber sound; introduced by patient; extracted part of it by lithotrite, the rest passed spontaneously; recovery.—*Annales des Maladies des Organes Genito-Urinaires*, Paris, 1883-84, II, 235.

100. HILDEBRANDT: Sixty-five years; piece of rubber drainage-tube; attempted auto-catheterization; lateral cystotomy; six weeks; recovery.—*Münchener medicinische Wochenschrift*, 1890, XXXVII, 441.

101. HILTON: Adult; piece of English catheter; auto-catheterization; extracted with lithotrite; recovery.—*Medical Times and Gazette*, London, 1858, XVI, 630.

102. HUNT, WILLIAM: Boy; galvanized metallic watch-chain; masturbation; spontaneously; few hours; no deposit; recovery.—*Philadelphia Medical Times*, 1872.

103. HUTCHINSON, J. C.: Thirty years; lead-pencil; masturbation; bilateral cystotomy; four days; no deposit; recovery.—*Medical Press and Circular*, London, 1869, VII, 113.

104. HUTCHINSON: Thirty years; piece of gutta-percha bougie; introduced by patient; spontaneous; three days; no deposit; recovery.—*Medical Times and Gazette*, London, 1856, XIII, 213.

105. INGALLS: Adult; glass tobacco-pipe-stem; patient introduced it to empty bladder; lateral cystotomy; twelve days; no deposit; recovery.—*Boston Medical and Surgical Journal*, 1879, CI, 780.

106. VON IVANCHIEH: Twenty-six years; piece of gutta-percha bougie; intro-

duced by patient; extracted with forceps; some hours; no deposit; recovery.—*Wiener medicinische Wochenschrift*, 1854, IV, 705.

107. JACKSON, J. C.: Adult; piece of wire; lateral cystotomy; two months; nucleus of phosphatic calculus; recovery.—*Transactions of the Pathological Society of London*, 1869, XX, 237.

108. JEAFFRESON, C. S.: Adult; piece of flexible catheter; left in by a doctor; extracted with lithotrite; two years; phosphatic deposit; recovery.—*Lancet*, London, 1872, I, 252.

109. JOBERT: Forty-two years; pipe-stem; attempt at auto-catheterization; lithotritry; six weeks; phosphatic deposit; recovery.—*Gazette des Hôpitaux*, Paris, 1850, p. 105.

110. JOHNSON, W.: Adult; soft rubber catheter; introduced by a layman; caught part projecting into urethra on tip of sound of small calibre; some hours; no deposit; recovery.—*British Medical Journal*, 1889, I, 793.

111. JONES, T.: Forty-eight years; lead-pencil; masturbation; median cystotomy; recovery.—*Canada Medical Journal*, Montreal, 1867, III, 449.

112. KEEN, W. W.: Seventy-five years; piece of flexible catheter; auto-catheterization; lateral cystotomy; six days; no deposit; recovery.—*Medical News*, Philadelphia, January 14, 1888.

113. KOLLOCK: Eighteen years; slate-pencil; lateral cystotomy; formed nucleus of phosphatic calculus; recovery.—*Transactions of the South Carolina Medical Association*, 1829.

114. LANE: Forty-nine years; piece of gutta-percha catheter; auto-catheterization; median cystotomy; one day; no deposit; recovery.—*Medical Times and Gazette*, London, September 13, 1856.

115. LEDIARD, H. A.: Seventy-two years; piece of silver catheter; being introduced by a layman; median cystotomy; two or three days; none; recovery.—*British Medical Journal*, 1882, II, 889.

116. LEDIARD, H. A.: Adult; gutta-percha bougie; introduced by patient; extracted with lithotrite; recovery.—*British Medical Journal*, 1882, II, 889.

117. LEONARD, B. B.: Forty-one years; head of wheat; got into urethra while patient was cutting wheat; lateral cystotomy; six months; some concretion formed about it; recovery.—*Cincinnati Lancet and Obstetrician*, 1872, N. S., xv, 429.

118. LOWE, J.: Nineteen years; bone pen-holder; introduced by patient to relieve retention due to gravel; lateral cystotomy; two years; recovery.—*Lancet*, London, 1879, I, 154.

119. LUND, E.: Seventeen years; rubber tube from nursing-bottle; lateral cystotomy; recovery.—*British Medical Journal*, 1869, II, 119.

120. MAISONNEUVE: Twenty-seven years; kidney bean; masturbation; extracted with lithotrite; three months; incrustated with ammonio-magnesium salts; recovery.—*Moniteur des Hôpitaux*, Paris, 1853, I, 11.

121. MALHERBE, A.: Sixty-five years; rubber sound; introduced by a doctor; extracted with brisée pierre; recovery.—*Annales des Maladies des Organes Genito-Urinaires*, Paris, February, 1895.

122. MALHERBE, A.: Forty-eight years; piece of a rubber sound; introduced by patient; extracted with brisée pierre; twenty-four hours; no deposit; recovery.—*Annales des Maladies des Organes Genito-Urinaires*, Paris, February, 1895.

123. MAUNSELL, H. W.: Eighteen years; twig of wood; masturbation; suprapubic cystotomy; nine weeks; recovery.—Transactions of the International Medical Congress, Australasia, 1887, I, 157.

124. MAYO, H.: Thirty-nine years; piece of flexible catheter; introduced by a doctor; lateral cystotomy; thirteen weeks; much incrustrated; recovery.—London Medical and Physical Journal, 1830, N. S., IX, 136.

125. MAXWELL, R. T.: Adult; pine-leaf; masturbation; spontaneously; a few days; deposit of phosphates; recovery.—Transactions of the South Carolina Medical Association, 1870, 15.

126. MAXWELL, R. T.: Adult; piece of gutta-percha bougie; introduced by patient; lateral cystotomy; three and a half weeks; deposit of phosphates; recovery.—American Journal of the Medical Sciences, Philadelphia, 1857, XXXIII, 67.

127. MCRUER: Fifty years; tobacco-pipe-stem; introduced for strangury by patient; median cystotomy; ten days; recovery.—Boston Medical and Surgical Journal, 1861, LXIV, 205.

128. MCWHINNIE: Twenty-six years; piece of sealing-wax; introduced for urethral irritation by patient; perineal cystotomy; four years; death.—Medical Times and Gazette, London, 1856, N. S., XIII, 591.

129. MELDON, A.: Thirty years; No. 1 flexible catheter; not stated by whom introduced, but used for retention of urine; lateral cystotomy; nine months; formed nucleus of calculus; recovery.—Medical Press and Circular, London, 1883, XXXV, 249.

130. MERRILL, J. W., Jr.: Thirty-five years; piece of English catheter; introduced by a doctor; extracted with lithotrite; one month; deposit of uric acid and phosphates, also oxalate of lime; recovery.—Boston Medical and Surgical Journal, 1883, CIX, 174.

131. MONKS, G. H.: Adult; lead-pencil with rubber in metal cap; masturbation; median cystotomy; six months; recovery.—Boston Medical and Surgical Journal, 1891, CXXIV, 182.

132. MORITZ: Thirty-four years; glass tube; lithotritry; three months; recovery.—St. Petersburger medicinische Zeitschrift, 1875, v, 156.

133. MURDOCH: Thirty years; lead-pencil; masturbation; median cystotomy; four days; no deposit; recovery.—Pittsburg Medical Journal, 1883, III, 65.

134. MUSSEY: Adult; piece of cord; to allay urethral irritation, by patient; perineal cystotomy; five months; formed nucleus of calculus; recovery.—American Journal of the Medical Sciences, Philadelphia, 1854, XXVIII, 393.

135. NANCREDE, C. B.: Adult; pen-holder; perineal cystotomy; no deposit; recovery.—Philadelphia Medical Times, 1880-81, XI, 55.

136. NEWELL, T.: Thirty-five years; gum-elastic catheter; auto-catheterization; spontaneously; ninety-six hours; no deposit; recovery.—Transactions of the Rhode Island Medical Society, 1877-78, 18.

137. NICOLADONI: Eighteen years; pin; suprapubic cystotomy; one day; no deposit; recovery.—Wiener medicinische Wochenschrift, 1886, XXXVI, 205.

138. NORRIS, HENRY: Adult; piece of straw; introduced by patient to relieve urethral irritation; found at autopsy; one month; formed nucleus of calculus; death.—Guy's Hospital Reports, 1840, v, 241.

139. NOTT, J. C.: Thirty-four years; piece of wax; masturbation; lateral cystotomy; five months; formed eight calculi but no wax; death.—New Orleans Medical and Surgical Journal, 1858, xv, 183.

140. OTIS, F. W.: Seventy years; piece of straw; litholapaxy; formed nucleus of calculus; recovery.—*Medical Gazette, New York*, 1880, VII, 181.

141. OVIATT: Twenty-six years; medicated gelatin bougie; introduced by patient; lateral cystotomy; twenty months; formed nucleus of calculus; recovery.—*North American Practitioner, Chicago*, 1892, 435.

142. PACKARD, F. R.: Twenty-seven years; vulcanized rubber watch-chain bar; masturbation; median cystotomy; fourteen years; slight phosphatic deposit; recovery.

143. PACKARD, J. H.: Adult; shawl-pin; suprapubic cystotomy; formed nucleus of a stone; recovery.

144. PARKER, F. L.: Sixteen years; two gutta percha bougies; masturbation; median cystotomy; three or four months; uric acid deposit; recovery.—*Transactions of the South Carolina Medical Association*, 1883, 93.

145. PARKER, WILLARD: Twenty-eight years; piece of slippery-elm bougie; introduced by patient; lateral cystotomy; three months; incrustation of phosphates; recovery.—*New York Medical Gazette*, 1841-42, I, 21.

146. PERTSCH: Adult; piece of wax; median cystotomy; ten days; recovery.—*Breslau Aertzl. Zeitschrift*, 1887, IX, 157.

147. PICAULT: Adult; piece of gutta-percha bougie; introduced by patient; spontaneously; a few days; no deposit; recovery.—*British-American Journal, Montreal*, 1861, III, 543.

148. PITHA: Adult; lead-pencil; introduced by patient for stricture; lateral cystotomy; eight days; recovery.—*Wiener medicinische Wochenschrift*, 1858, 865.¹

149. PITHA: Adult; piece of sealing-wax used to lengthen catheter; auto-catheterization; extracted with lithotrite; recovery.—*Wiener medicinische Wochenschrift*, 1858, 865.¹

150. PORTER, C. B.: Sixty-four years; piece of soft rubber catheter; auto-catheterization; extracted with lithotrite; sixteen hours; no deposit; recovery.—*Boston Medical and Surgical Journal*, 1884, CX, 349.

151. PORTER, G. H.: Twenty-five years; piece of gutta-percha bougie; introduced by patient; Allarton's cystotomy; seven months; some calculous formation; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1873, LV, 110.

152. PORTER, G. H.: Thirty-eight years; piece of flexible catheter; auto-catheterization; median cystotomy; nine weeks; much incrustated; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1873, LV, 110.

153. PORTER, G. H.: Forty-five years; piece of flexible catheter; auto-catheterization; extracted with lithotrite; twenty-four hours; no deposit; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1873, LV, 110.

154. PORTER, G. H.: Twenty-three years; piece of gutta-percha bougie; introduced by patient; median cystotomy; seven months; formed nucleus of stone; recovery.—*Medical Press and Circular*, 1869, VII, 113.

155. POST, A.: Adult; lead-pencil; introduced by patient to relieve urethral irritation; passed into urethra and was then removed with forceps; three months; no deposit; recovery.—*Boston Medical and Surgical Journal*, 1881, CIV, 165.

156. POST, A. C.: Adult; gutta-percha bougie; introduced by a doctor; lateral cystotomy; recovery.—*New York Medical Times*, 1852, I, 39.

¹ These operations were performed on the same patient.

157. PURCELL, F. A. : Adult; piece of soft rubber catheter; auto-catheterization; spontaneously; four days; no deposit; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1867, LXIV, 488.
158. QUAIN, R. : Adult; piece of gutta-percha bougie; introduced by patient; median cystotomy; three days; no deposit; recovery.—*Association Medical Journal*, London, 1854, II, 997.
159. RICHARDSON, M. H. : Thirty-six years; wooden pencil with metal cap; introduced by patient to relieve urethral irritation; extracted with lithotrite; fourteen weeks; some incrustation; recovery.—*Boston Medical and Surgical Journal*, 1889, CXXI, 630.
160. ROBERTS, J. A. : Adult; piece of silver catheter; auto-catheterization; perineal cystotomy; recovery.—*Medical and Surgical Reporter*, Philadelphia, 1860, IV, 3.
161. ROBERTS, J. A. : Adult; piece of silver catheter; auto-catheterization; lateral cystotomy; recovery.—*Medical and Surgical Reporter*, Philadelphia, 1860, IV, 3.
162. ROBERTSON: Adult; wooden pen-holder; introduced by patient for stricture; median cystotomy; three days; no deposit; recovery.—*Pacific Medical and Surgical Journal*, 1871-72, V, 65.
163. ROGERS, W. B. : Thirty-six years; piece of wire; lateral cystotomy; one year; phosphatic deposit; recovery.—*Mississippi Valley Medical Monthly*, 1885, V, 385.
164. RORIG: Adult; piece of Mercier's catheter; auto-catheterization; extracted with lithotrite; recovery.—*Therapeutische Monatschrift*, Berlin, 1890, IV, 401.
165. RORIG: Adult; piece of Mercier's catheter; auto-catheterization; extracted with lithotrite; recovery.—*Therapeutische Monatschrift*, Berlin, 1890, IV, 401.
166. RORIG: Adult; piece of Mercier's catheter; auto-catheterization; extracted with lithotrite; recovery.—*Therapeutische Monatschrift*, Berlin, 1890, IV, 401.
167. RORIG: Adult; piece of Mercier's catheter; auto-catheterization; extracted with lithotrite; recovery.—*Therapeutische Monatschrift*, Berlin, 1890, IV, 401.
168. RORIG: Adult; piece of Mercier's catheter; auto-catheterization; extracted with lithotrite; recovery.—*Therapeutische Monatschrift*, Berlin, 1890, IV, 401.
169. ROSE, L. W. : Fifty-eight years; leather shoestring; masturbation; extracted with lithotrite; phosphatic deposit; recovery.—*Medical Record*, New York, 1887, XXXII, 761.
170. ROSE, WM. : Fifty-four years; clay tobacco-pipe-stem; introduced by patient; extracted with lithotrite scoop; four days; no deposit; recovery.—*Lancet*, London, 1879, I, 84.
171. ROSS, G. : Adult; kidney bean; introduced by comrade; extracted with lithotrite; two weeks; recovery.—*Canada Medical and Surgical Journal*, Montreal, 1875, XVI, 445.
172. ROTHMUND, A. : Sixty-five years; piece of filiform bougie; extracted with lithotrite; recovery.—*Deutsche Klinik*, Berlin, 1859, XI, 159.
173. SAMAIN: Thirty-eight years; kidney bean; extracted with brisée pierre; three months; recovery.—*Journal de la Société médicale*, Lille, June 16, 1894.
174. SEGALAS: Sixty-two years; gum-elastic bougie; introduced by patient; lithotritry; forty-eight hours; no deposit; recovery.—*Bulletin de la Académie de Médecine*, Paris, 1837-38, II, 48.

175. SERVIER: Twenty-three years; piece of steel; introduced by patient to allay urethral irritation; median cystotomy; several weeks; recovery.—*Gazette hebdomadaire de Médecine*, Paris, 1869, 2 S., VI, 518.

176. SHRADY: Adult; soft rubber catheter; introduced by a doctor; extracted with lithotrite; recovery.—*Medical Record*, New York, 1892, XLII, 517.

177. SIMON: Four years; sewing-needle; accidentally introduced while being dandled by a woman; perineal cystotomy; some years; formed nucleus of a calculus; recovery.—*Transactions of the Pathological Society of London*, 1855, VI, 255.

178. SIMON: Sixty-two years; piece of gutta-percha bougie; introduced by patient; lateral cystotomy; two days; no deposit; died one month later of apoplexy.—*Transactions of the Pathological Society of London*, 1855, VI, 255.

179. SMITH, A. H.: Adult; flexible catheter; auto-catheterization; spontaneously; a few hours; no deposit; recovery.—*Medical Record*, New York, 1892, XLII, 517.

180. SMITH, GEORGE: Twenty-four years; glass tube; masturbation; lateral cystotomy; one day; recovery.—*Medical Record*, New York, 1874, IX, 117.

181. SMITH, H.: Thirty-nine years; piece of straw; introduced by patient to relieve retention; litholapaxy; some months; formed nucleus of a calculus; recovery.—*Lancet*, London, 1883, I, 545.

182. SMITH, HENRY: Nineteen years; glass tube; introduced by patient to relieve urethral irritation; median cystotomy; one day; no deposit; recovery.—*Lancet*, London, 1866, II, 9.

183. STEINER, F.: Sixty-three years; piece of rolled-up paper; found at autopsy; upward of six months; formed nucleus of a calculus; death.—*Wiener medicinische Wochenschrift*, 1868, XVIII, 745.

184. STEINITZ, J.: Adult; fragment of rubber catheter; auto-catheterization; spontaneous after dilatation of stricture of urethra; seventeen years; recovery.—*Breslau Aertzl. Zeitschrift*, 1879, I, 24.

185. STOKES, WM.: Forty years; flexible catheter; auto-catheterization; median cystotomy; one day; no deposit; recovery.—*Dublin Quarterly Journal of the Medical Sciences*, 1873, LVI, 231.

186. SWINFORD: Adult; piece of grass; extracted with lithotrite; recovery.—*Transactions of the Medical Society of London*, 1894, XVII, 341.

187. TALBOT, J. T.: Seventy-one years; flexible catheter; auto-catheterization; suprapubic cystotomy; two days; no deposit; recovery.—*New England Medical Gazette*, 1853, IV, 289.

188. TALBOT, J. T.: Seventy-two years; piece of silver catheter; auto-catheterization; extracted with specially-devised hook; recovery.—*New England Medical Gazette*, 1853, IV, 289.

189. THOMPSON, HENRY: Sixty-three years; hair-pin; passed to relieve urethral irritation; extracted with lithotrite; a few hours; no deposit; recovery.—*Lancet*, London, 1866, II, 9.

190. THOMPSON, HENRY: Adult; piece of sealing-wax; introduced by patient; median cystotomy; six months; formed nucleus of phosphatic calculus; recovery.—*Catalogue to Collection of Calculi of the Bladder*, etc., 1893.

191. THOMPSON, HENRY: Adult; piece of vulcanized rubber catheter; auto-catheterization; crushed and withdrawn with lithotrite; formed nucleus of phosphatic calculus; recovery.—*Catalogue to Collection of Calculi of the Bladder*, etc., 1893.

192. THORBURN: Fifty-four years; piece of tobacco-pipe-stem; introduced by patient for retention of urine; median cystotomy; one day; no deposit; recovery.—*London Medical Gazette*, 1828-29, III, 822.

193. TODD, T. M.: Forty-nine years; piece of glass rod; masturbation; median cystotomy; recovery.—*Occidental Medical Times*, Sacramento, 1892, VI, 435.

194. TRELAT: Forty-one years; stem of feather; introduced by patient for retention of urine; median cystotomy; six months; covered with phosphates; recovery.—*Bulletin de la Société Anatomie de Paris*, 1878, LI, 352.

195. TREVOR, J. E.: Adult; flexible catheter; suprapubic cystotomy; four months; covered with phosphates; recovery.—*Lancet*, London, 1890, I, 539.

196. TROWBRIDGE, AMASA: Adult; piece of sealing-wax; lateral cystotomy; twenty-two days; covered with phosphates; recovery.—*New York Medical Gazette*, 1853, IV, 289.

197. TROWBRIDGE, AMASA: Sixteen years; piece of slate-pencil; lateral cystotomy; three weeks; recovery.—*New York Medical Gazette*, 1853, IV, 289.

198. TROWBRIDGE, AMASA: Twenty-three years; piece of willow-twigg; lateral cystotomy; two years; formed nucleus of a calculus; recovery.—*New York Medical Gazette*, 1853, IV, 289.

199. VAN BUREN, W. H.: Twenty years; piece of slate-pencil; introduced by a comrade; lateral cystotomy; five years; formed nucleus of a calculus; recovery.—*New York Medical Times*, 1854, III, 225.

200. VAN BUREN, W. H.: Adult; wheat straw; introduced by patient; lateral cystotomy; many years; formed nucleus of a calculus; death from pyæmia.—*Transactions of the New York Pathological Society*, 1879, III, 229.

201. VIERTTEL: Adult; piece of Nélaton catheter; auto-catheterization; suprapubic cystotomy; two years; formed nucleus of a calculus; recovery.—*Deutsche medicinische Wochenschrift*, Leipzig und Berlin, 1893, XIX, 503.

202. VON DITTEL: Sixty-six years; piece of a catheter; auto-catheterization; suprapubic cystotomy; twenty-seven days; recovery.—*Wiener medicinische Blätter*, 1881, IV, 1280.

203. VON FILLENBAUM: Fifty-four years; piece of Nélaton catheter; auto-catheterization; extracted with lithotrite; three days; no deposit; recovery.—*Deutsche Zeitschrift für Chirurgie*, Leipzig, 1884, XX, 453.

204. VON FILLENBAUM: Thirty years; pencil with bone tip; masturbation; median cystotomy; three days; recovery.—*Militärarzt*, Wien, 1881, XV, 109.

205. WALKER, G. E.: Forty-seven years; piece of bougie; introduced by patient; spontaneous; recovery.—*British Medical Journal*, 1880, I, 278.

206. WALLACE, D.: Forty-five years; piece of paraffin; introduced by patient for urethral irritation; litholapaxy; one year; phosphatic deposit; recovery.—*Lancet*, London, 1893, I, 1132.

207. WEICKERT: Twenty-five years; piece of bougie; introduced by patient; spontaneous; recovery.—*Deutsche Klinik*, Berlin, 1853, V, 244.

208. WEISS, W.: Adult; piece of steel; perineal cystotomy; death thirteen weeks after operation.—*Wiener medicinische Wochenschrift*, 1873, XXIII, 661.

209. WEISS: Forty-two years; piece of rubber tube; introduced by patient for retention of urine; median cystotomy; recovery.—*Aertzliche Berliner der Klinik allgemeine Krankheiten zu Prag*, 1878, 149.

210. WEISS: Adult; piece of flexible catheter; auto-catheterization; extracted with lithotrite; eight days; recovery.—*Aertzliche Berliner der Klinik allgemeine Krankheiten zu Prag*, 1878, 149.

211. WHEELER, H. M.: Twenty-one years; button-hook; spontaneously; ten days; no deposit; recovery.—*Physician and Surgeon, Ann Arbor*, 1879, I, 262.

212. WIER, WM.: Forty-five years; piece of woodbine; introduced by patient to relieve urethral irritation; lateral cystotomy; ten months; formed nucleus of phosphatic calculus; recovery.—*London and Edinburgh Monthly Journal of the Medical Sciences*, 1843, III, 1005.

213. WIGHT, J. S.: Forty-one years; piece of soft catheter; introduced by a doctor; lateral cystotomy; fifteen days; much incruited; recovery.—*Brooklyn Medical Journal, New York*, 1890, IV, 581.

214. WIGHT, J. S.: Forty-five years; piece of soft catheter; auto-catheterization; perineal cystotomy; eighteen months; much incruited; death from dysentery while convalescing from operation.—*Brooklyn Medical Journal, New York*, 1890, IV, 561.

215. WILDBORE, F.: Fifty-three years; piece of soft catheter; auto-catheterization; lateral cystotomy; four weeks; formed nucleus of phosphatic calculus; recovery.—*Lancet, London*, June 27, 1846.

216. WILLIAMS: Thirty-six years; brass lead-pencil guard; lateral cystotomy; two years; deposit of uric acid phosphates forming a calculus; recovery.—*Lancet, London*, 1892, II, 484.

217. WILLIAMSON: Twenty-five years; piece of cane; passed by comrades; lateral cystotomy; two years; formed nucleus of phosphatic calculus; recovery.—*Edinburgh Medical and Surgical Journal*, 1848, LXIX, 63.

218. WILSON, H. C.: Forty-two years; piece of English web catheter; auto-catheterization; litholapaxy; eight months; formed nucleus of phosphatic calculus; recovery.—*Medical Record, New York*, 1882, XXII, 709.

219. WISHARD, W. N.: Adult; piece of chewing-gum; introduced by patient to allay urethral irritation; median cystotomy; two months; phosphatic deposit; recovery.—*Indiana Medical Journal*, 1894, XIII, 178.

220. WISHARD, W. N.: Adult; cane pipe-stem; median cystotomy; nine months; phosphatic deposit; recovery.—*Indiana Medical Journal*, 1894, XIII, 178.

221. WYETH, J. A.: Adult; English catheter; auto-catheterization; extracted with lithotrite; recovery.—*New York Medical Record*, April 7, 1883.

ADDENDUM.

222. MORTON, T. G.: Twenty-three years; piece of carpenter's lead-pencil; median cystotomy; some weeks; deposit of calculous material; recovery.—*Pennsylvania Hospital Reports*, Vol. II, 44.

223. KEEN, W. W.: (Unpublished); 60; fragment of rubber catheter; auto-catheterization; suprapubic cystotomy; three days; recovery.